

REMARKS

Claims 26-34 and 37-49 were acted upon in the aforesaid Office Action, claims 1-25, 35 and 36 having been canceled previously. Claims 26-34, 37-44 and 46-49 stand rejected. Claim 45 has been objected to. New claims 50-67 have been added, claim 41 has been canceled, leaving claims 26-34, 37-40 and 42-67 for consideration.

Claim 47 stands rejected under 35 U.S.C. 102 as being anticipated by Chang.

Claim 47 is a method claim limiting the method to the steps of "projecting a laser beam...along an axis and onto the workpiece: and "projecting a... measuring light... along the axis and onto the processing site" and "directing measuring light reflected along the axis from the processing site...".

In Chang, the laser apparatus 15 and tracking light source 20 appear to project beams 16 and 21 (mirror for bending light beam) onto the workpiece and processing site at 90° to each other (FIG. 1). The measuring light source appears to be along the axis of the measuring light, but 90° to the laser beam.

Accordingly, it appears that Chang neither anticipates nor renders obvious the matter of claim 47, but rather teaches away from the invention of claim 47.

Claim 47 stands further rejected under 35 U.S.C. 102 as anticipated by Lemelson. Lemelson clearly shows in FIG. 4 an arrangement of light beams which does not conform to claim 47 of Applicant. In Lemelson, FIG. 4, the laser beam is focused along an axis 143. However, there is no non-laser light projected along that same axis, and clearly no reflected light (145 in FIG. 4) along that same axis. In short, Lemelson simply does not show or teach or suggest the series of steps set forth in claim 47 of Applicant.

Claim 47 stands still further rejected under 35 U.S.C. 102 as anticipated by Beyer. However, as noted above, claim 47 is limited to "projecting a non-laser measuring light of less luminosity than the laser beam along the axis and onto the processing site". In Beyer, no such projection of measuring light onto the processing site is disclosed. Measuring is accomplished optically by viewing plasma glow from the workpiece, the plasma flow being radiated from the processing site, not projected onto the processing site.

Accordingly, it appears that claim 47 stands well clear of the teachings of Chang, Lemelson and Beyer, and should be deemed allowable thereover.

Claims 26-34 and 48 depend from claim 47 directly or ultimately, and would appear to be allowable, at least through dependency.

Claim 49 stands rejected under 35 U.S.C. 102 as anticipated by Chang, Lemelson and Beyer.

Claim 49 is directed to a device and is limited to "a laser beam radiation means for projecting a laser beam along an axis and onto a workpiece at a processing site; a measuring light source for directing a non-laser measuring light... along the axis and onto the processing site; a processing optic for focusing the laser beam along the axis and onto a workpiece... and for receiving measuring light... along the axis". (emphasis added).

As noted above, in Chang the laser apparatus and the tracking light source project beams normal to each other, rather than along the same axis. Similarly, in Lemelson there is no showing of a laser beam projector and a non-laser beam projector projecting beams along the same axis, and in Beyer there appears to be no measuring light source for directing a non-laser measuring light along the same axis and onto the processing site.

In view thereof, it appears that claim 49 is neither anticipated nor suggested by Chang, Lemelson, and Beyer, individually or in combination, and should be deemed allowable thereover.

Claims 37-40 and 42-44 depend directly or ultimately from claim 49 and would therefore appear to be allowable, at least through dependency.

Claim 45 stands objected to. Claim 45 has been amended to include the matter of claim 49, from which old claim 45 depended, and would therefore appear to be in allowable condition. Claim 46 depends from claim 45 and would appear to be allowable at least through dependency.

New claims 50-56 depend directly or ultimately from claim 45 and should be deemed allowable, at least through dependency.

Claim 57 is a new method claim which includes the matter of old claim 47 and old claim 45 (objected to) with the matter of old claim 45 in method terminology. Inasmuch as old claim 45 was deemed allowable if presented in independent form, it appears that claim 57 is similarly allowable.

Claims 58-67 depend directly or ultimately from claim 57 and therefore appear to be allowable.

In summary, allowance of claims 26-34, 37-40, and 42-67 appears to be in order and is most respectfully requested.

Respectfully submitted,



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